

Claims

(78)

1. Injection moulding device (1) comprising two parts (22, 27) that can move with respect to one another for delimiting a mould cavity between them, wherein at least one of said parts (22) is provided with a plastic feed (19) that can be shut off, at least one of said parts, the stationary part (22), is joined to a frame (2) and the other, movable part (27) can be moved with respect to said frame by means of operating means (5-13), the joint between said movable part and said operating means allowing movement of said movable part with respect to said operating means in a direction that is not the direction of movement of the operating means, characterised in that said parts (22, 27) move in vertical direction with respect to one another, said joint between said movable part and said operation means is embodied to allow tilting and slight movement in the horizontal plane and in that centring means (25, 30) are fitted for centring the movable part with respect to the stationary part when the stationary part and the movable part move towards one another, wherein said joint comprises a number of columns (55) which extend in the direction of movement next to one another parallel with respect to one another and are arranged between the operating means and said movable part, which columns are rigid in the longitudinal direction thereof and are weak in the transverse direction thereof.
2. Injection moulding device according to Claim 1, wherein said joint comprises a ball/cup assembly, the axis of which essentially corresponds to the direction of movement of the movable part.
3. Injection moulding device according to one of the preceding claims, wherein said joint comprises two discs (56-58) located some distance apart one after the another in the direction of movement, joined by a rib (59; 60) extending essentially perpendicularly to said direction of movement.
4. Injection moulding device according to Claims 2 and 3, wherein said discs located some distance apart are fitted adjoining said movable part.
5. Injection moulding device according to one of the preceding claims, wherein said

centring means comprise interacting centring ridges/centring recesses, either said centring ridges or said centring recesses being arranged on the boundary surface of the stationary part, or said centring recesses or said centring ridges being arranged on the boundary surface of the movable part.

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6. Injection moulding device according to Claim 5, comprising centring ridges/centring recesses that are radial with respect to the closing movement.

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7. Injection moulding device according to one of the preceding claims, wherein said centring means comprise interacting centring rollers/centring recesses, said centring recesses being made in both the stationary part and the movable part and said rollers being accommodated in said centring recesses.

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8. Injection moulding device according to Claim 7, wherein said centring recesses comprise annular grooves.

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9. Injection moulding device according to one of the preceding claims, wherein said operating means comprise an element engaging the movable part, provided with a ball-like surface engaging in a cup of a ring (17) that is cup-shaped on either side, the movable part being provided with a cup-shaped part (18) engaging in the other cup of said ring.

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10. Injection moulding device according to one of the preceding claims, wherein said operating means comprise an element engaging the movable part that is guided as piston (14) in a cylinder (12) joined to said frame.

11. Injection moulding device according to one of the preceding claims, wherein said operating means comprise a crankshaft (5)/connecting rod (6) mechanism.

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12. Injection moulding device according to one of the preceding claims, wherein said operating means are designed to provide a first opening position for removing said injected articles and a second, further opened position for maintenance and/or changing mould sections.

13. Injection moulding device according to one of the preceding claims, wherein the mould cavity is provided around the periphery, that is to say in a direction parallel to the closing movement of said parts, with a closing ring (31), which, under spring pressure (32), can move with respect to the part around which it is fitted, such that after said closing ring
5 (31) has engaged on the opposite part said parts (22, 27) are able to centre with respect to one another.

14. Injection moulding device according to Claim 13, wherein said closing ring (41) is constructed as a venting ring.

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15. Injection moulding device according to one of the preceding claims, wherein at least one of said movable parts is provided with cooling/heating channels.

16. Injection moulding device according to one of the preceding claims, designed for the
15 injection of one or more disc-shaped information carriers.